Notice of Allowability	Application No.	Applicant(s)	
	10/786,289	NISHIMURA ET AL.	
	Examiner	Art Unit	
	Olumide T. Ajibade-Akonai	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *08/04/2006*.

2. ☒ The allowed claim(s) is/are *2-11,13,14,17 and 18*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 08/31/2006.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 01/13/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *08/31/2006* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

DETAILED ACTION

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with James Love on August 31, 2006.

The following changes to the drawings have been approved by the examiner and agreed upon by applicant: figures 1, 2 and 3 should be labeled "prior art". In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

Allowable Subject Matter

3. Claims 2-14, 17 and 18 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding **claim 2**, Wallentin (6,246,878) discloses a radio data communications method in which at least one of a first radio network controller and a second radio network controller performs a soft handover process for allowing soft handover of a mobile terminal, when the mobile terminal is performing the soft handover, the method including the steps of: changing radio network controllers that perform the soft handover

process; and transmitting data as part of the soft handover process in downlink radio data communications in which the first radio network controller transmits data to the mobile terminal via the second radio network controller and a base station, the soft handover processing including the steps of determining a first transmission timing of transmitting the data to all base stations to which the mobile terminal is connected when performing the soft handover, determining a second transmission timing of transmitting the data to the second radio network controller, and dividing the data and providing a sequence number to each of the data fragments.

The instant invention discloses dividing the data and providing a sequence number to each of the data fragments based on a sequence number providing status and transmitting the data fragments to all the base stations at the first transmission timing transmitting at least a data fragment to the second radio network controller wherein said data fragment is added with information requesting the sequence number providing status, and transmitting the sequence number providing status from the second radio network controller to the first radio network controller, wherein the sequence number providing status includes the number of data fragments having been transmitted since the data fragment added with information requesting the sequence number providing status. The above novel features in combination with the recited limitations of claim 1 are neither taught, suggested nor made obvious by Wallentin.

Regarding **claim 13**, Wallentin discloses a radio network controller for performing a soft handover process for allowing soft handover of a mobile terminal, when the mobile terminal is performing soft handover, in downlink radio data communications in

which data is transmitted to the mobile terminal via a base station, the radio network controller comprising: a notification receiver configured to receive a notification instructing the radio network controller to perform the soft handover process as a first radio network controller; a data divider configured to divide the data in response to the notification; a sequence number provider configured to provide a sequence number to each of the data fragments, in response to the notification; a transmission timing determiner configured to determine a first transmission timing of transmitting the data to a base station managed by the radio network controller among base stations to which the mobile terminal is connected when performing the soft handover, and to determine a second transmission timing of transmitting the data to a second radio network controller, in response to the notification.

The instant invention discloses a sequence number provider configured to provide a sequence number to each of the data fragments, based on a sequence number providing status; and a data transmitter configured to transmit data fragments to the second radio network controller at the second transmission timing, wherein at least a data fragment is added with information requesting the sequence number providing status, wherein the data transmitter is further configured to transmit the data fragments at the first transmission timing to the base stations managed by the radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification. The above novel features in combination with the recited limitations of claim 13 are neither taught, suggested nor made obvious by Wallentin.

Regarding **claim 17**, Wallentin discloses a radio network controller for performing a soft handover process for allowing soft handover of a mobile terminal, when the mobile terminal is performing the soft handover, in uplink radio data communications in which the mobile terminal transmits data via a base station, the radio network controller comprising: a notification receiver configured to receive a notification instructing the radio network controller to perform the soft handover process as a first radio network controller. Jiang discloses a reconstructor configured to reconstruct the data from the selectively combined data fragments, in response to the notification.

The instant invention discloses a selective combiner configured to perform selective combining of data fragments from all base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification, wherein the selective combining is performed at least according to the sequence number in each data segments. The above novel features in combination with the recited limitations of claim 17 are neither taught, suggested nor made obvious by Wallentin or Jiang.

Regarding **claim 18**, Wallentin discloses a radio network controller for performing a soft handover process for allowing soft handover of a mobile terminal, when the mobile terminal is performing the soft handover, in uplink radio data communications in which the mobile terminal transmits data via a base station, the radio network controller comprising: a notification receiver configured to receive a notification instructing the radio network controller to perform the soft handover process.

The instant invention discloses a selective combiner configured to perform selective combining of data fragments from base stations managed by the radio network controller among all base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification, wherein the selective combining is performed at least according to the sequence number in each of the data fragments; and a data transmitter configured to transmit the selectively combined data fragments to a first radio network controller in response to the notification.

The above novel features in combination with the recited limitations of claim 18 are neither taught, suggested nor made obvious by Wallentin.

Claims 3-12 and 14 are allowable based on their being dependent of claims 2 and 13.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ljung (6,078,813) discloses handover quality control in a mobile communications system.

Lehtovirta et al (20010034228) discloses a method and apparatus for releasing connections in an access network.

Tomita et al 20050141477 discloses a packet transferring/transmitting method and mobile communication system.

Rune et al 20020012321discloses deriving control parameters for telecommunications in-and-out synchronization detection.

Costa et al 6,668,170 discloses a mobile radio telecommunications system with synchronized handover.

Longoni et al 7,085,294 discloses a frame synchronization mechanism.

Lundh et al discloses synchronization for cellular telecommunications network.

Eyuboglu 20040214574 discloses radio network control.

Lundh et al 6,577,872 discloses a base station oscillator regulation independent of transport network clocks in cellular telecommunications network.

Hirata 5,920,557 discloses a radio base station inter-station synchronizing circuit.

Takahashi et al 5,912,886 discloses a digital mobile communication system capable of establishing mutual synchronization among a plurality of radio base stations.

Jiang 6,725,040 discloses a lossless SRNS relocation procedure in a wireless communication system.

Chuah 20030076803 discloses a reconfigurable wireless communication access system and method.

Lundh 6,373,834 discloses synchronization for cellular telecommunications network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olumide T. Ajibade-Akonai whose telephone number is 571-272-6496. The examiner can normally be reached on M-F, 8.30p-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OA

CHARLES APPIAH
PRIMARY EXAMINER